Module title			Abbreviation
Computational Mathematics			10-M-COM-122-m01

Module coordinator		Module offered by
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics

ECTS	Method of grading	Only after succ. compl. of module(s)
4	(not) successfully completed	--

Duration	Module level	Other prerequisites
1 semester	undergraduate	Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Contents

Introduction to modern mathematical software for symbolic computation (e. g. Mathematica or Maple) and numerical computation (e. g. Matlab) to supplement the basic modules in analysis and linear algebra ((10-M-ANA or 10-M-ANL) and 10-M-LNA). Computer-based solution of problems in linear algebra, geometry, analysis, in particular differential and integral calculus; visualisation of functions.

Intended learning outcomes

The student learns the use of advanced modern mathematical software packages, and is able to assess their fields of application to solve mathematical problems.

Courses (type, number of weekly contact hours, language — if other than German)

V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

project in the form of programming exercises (type and expenditure of time to be specified by the lecturer at the beginning of the course)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places

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Additional information

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Workload

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Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Bachelor's degree (1 major) Nanostructure Technology (2012)
Bachelor's degree (1 major) Economathematics (2012)
Bachelor's degree (1 major) Mathematical Physics (2012)
Bachelor's degree (1 major) Functional Materials (2012)

First state examination for the teaching degree Gymnasium Mathematics (2012)

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